

CLAIMS

1. An apparatus, comprising:
at least one light source to generate variable color radiation without requiring the
use of a color filter, the at least one light source being adapted such that at least a color of
the variable color radiation is controllable based on at least one interruption of power
supplied to the apparatus.

2. The apparatus of claim 1, wherein the at least one light source includes at least one
10 LED.

3. The apparatus of claim 2, wherein the at least one LED includes at least two
differently colored LEDs.

15 4. The apparatus of claim 2, wherein the at least one LED includes at least one red
LED, at least one green LED, and at least one blue LED.

5. The apparatus of claim 1, wherein the at least one light source is further adapted to be
supported by one of a pool and a spa so as to illuminate with the variable color
20 radiation a liquid contained in the one of the pool and the spa.

6. The apparatus of claim 5, in combination with the one of the pool and the spa.

25 7. The apparatus of claim 1, further comprising at least one controller, coupled to the at
least one light source, to control the variable color radiation generated by the at least
one light source based on the at least one interruption in the power supplied to the
apparatus.

30 8. The apparatus of claim 7, wherein the at least one controller is adapted to control the
variable color radiation based on at least one interruption in the power having an
interruption duration that is less than or equal to a predetermined duration.

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INDEXED
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9. The apparatus of claim 8, wherein the at least one controller is adapted such that the variable color radiation is not changed if the interruption duration of the at least one interruption in the power is greater than the predetermined duration.

5 10. The apparatus of claim 8, wherein the at least one controller includes at least one timing circuit to maintain a charge based on an application of the power supplied to the apparatus.

10 11. The apparatus of claim 10, wherein a time constant of the at least one timing circuit is selected based on the predetermined duration.

15 12. The apparatus of claim 7, further comprising at least one storage device, coupled to the at least one controller, to store at least one illumination program, wherein:
the at least one controller is adapted to modify at least one variable parameter of
the at least one illumination program based on the at least one interruption in the power
supplied to the apparatus.

20 13. The apparatus of claim 7, further comprising at least one storage device, coupled to the at least one controller, to store at least one illumination program, wherein:
the at least one controller is adapted to execute the at least one illumination
program, based on the at least one interruption in the power supplied to the apparatus, so
as to control the variable color radiation generated by the at least one light source.

25 14. The apparatus of claim 13, wherein the at least one illumination program includes a plurality of illumination programs, wherein the at least one storage device stores the plurality of illumination programs, and wherein the at least one controller is adapted to select and execute a particular illumination program of the plurality of illumination programs based on the at least one interruption in the power supplied to the apparatus.

30 15. The apparatus of claim 14, wherein the at least one controller is further adapted to indicate to a user that the particular illumination program has been selected.

16. The apparatus of claim 15, wherein the at least one controller is further adapted to indicate to the user via the variable color radiation that the particular illumination program has been selected.

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17. The apparatus of claim 16, wherein the at least one controller is further adapted to temporarily modify at least one variable parameter of the particular illumination program so as to indicate to the user that the particular illumination program has been selected.

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18. The apparatus of claim 17, wherein the particular illumination program includes a dynamic color variation program, wherein the at least one variable parameter includes a color variation speed of the dynamic color variation program, and wherein the at least one controller is further adapted to temporarily modify the color variation speed of the dynamic color variation program so as to indicate to the user that the dynamic color variation program has been selected.

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19. The apparatus of claim 18, wherein the at least one controller is further adapted to temporarily increasing the color variation speed of the dynamic color variation program so as to indicate to the user that the dynamic color variation program has been selected.

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20. The apparatus of claim 14, wherein the at least one interruption includes a plurality of interruptions, and wherein the at least one controller is adapted to select and execute different illumination programs of the plurality of illumination programs based on successive interruptions of the plurality of interruptions.

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21. The apparatus of claim 20, wherein each illumination program of the plurality of illumination programs is associated with one identifier in a sequence of identifiers, and wherein the at least one controller is adapted to sequentially select and execute the different illumination programs based on the sequence of identifiers and the successive interruptions.

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22. The apparatus of claim 20, wherein each interruption of the plurality of interruptions has an interruption duration, and wherein the at least one controller is adapted to select and execute a different illumination program of the plurality of illumination programs if the interruption duration of at least one interruption is less than or equal to a predetermined duration.

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23. The apparatus of claim 22, wherein the at least one controller is adapted not to select and execute a different illumination program of the plurality of illumination programs if the interruption duration of the at least one interruption is greater than the predetermined duration.

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24. A method, comprising acts of:

15 a) providing at least one light source capable of generating variable color radiation without using a color filter; and

16 b) controlling at least a color of the variable color radiation based on at least one interruption of power supplied to the at least one light source.

25. The method of claim 24, wherein the at least one light source includes at least two differently colored LEDs, and wherein the act b) includes an act of:

20 independently controlling each LED of the at least two differently colored LEDs based on the at least one interruption of the power supplied to the at least one light source.

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26. The method of claim 25, wherein the at least one light source includes at least one red LED, at least one green LED, and at least one blue LED, and wherein the act b) includes an act of:

30 independently controlling the at least one red LED, the at least one green LED, and the at least one blue LED based on the at least one interruption of the power supplied to the at least one light source.

27. The method of claim 24, wherein the at least one light source is further adapted to be supported by one of a pool and a spa containing a liquid, and wherein the method further comprises an act of:

5 c) illuminating the liquid in the one of the pool and the spa with the variable color radiation.

28. The method of claim 24, wherein the act b) comprises an act of:

10 b1) controlling the variable color radiation based on at least one interruption in the power having an interruption duration that is less than or equal to a predetermined duration.

29. The method of claim 28, wherein the act b) further comprises an act of:

15 b2) not changing the variable color radiation if the interruption duration of the at least one interruption in the power is greater than the predetermined duration.

30. The method of claim 28, wherein the act b) comprises an act of:

20 b3) charging at least one timing circuit based on an application of the power supplied to the apparatus.

31. The method of claim 30, wherein the act b3) comprises an act of:

25 selecting a time constant of the at least one timing circuit based on the predetermined duration.

32. The method of claim 24, wherein the act b) comprises acts of:

30 executing at least one illumination program to control the variable color radiation generated by the at least one light source; and

 modifying at least one variable parameter of the at least one illumination program based on the at least one interruption in the power.

33. The method of claim 24, wherein the act b) comprises an act of:

SEARCHED
INDEXED
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b4) selecting and executing at least one illumination program, based on the at least one interruption in the power, so as to control the variable color radiation generated by the at least one light source.

5 34. The method of claim 33, wherein the at least one illumination program includes a plurality of illumination programs, and wherein the act b4) comprises an act of:

b5) selecting and executing a particular illumination program of the plurality of illumination programs based on the at least one interruption in the power supplied to the apparatus.

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35. The method of claim 34, wherein the act b4) further comprises an act of:

b6) indicating to a user that the particular illumination program has been selected.

36. The method of claim 35, wherein the act b6) comprises an act of:

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b7) indicating to the user via the variable color radiation that the particular illumination program has been selected.

37. The method of claim 36, wherein the act b7) comprises an act of:

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b8) temporarily modifying at least one variable parameter of the particular illumination program so as to indicate to the user that the particular illumination program has been selected.

38. The method of claim 37, wherein the particular illumination program includes a

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dynamic color variation program, wherein the at least one variable parameter includes a color variation speed of the dynamic color variation program, and wherein the act b8) comprises an act of:

b9) temporarily modifying the color variation speed of the dynamic color variation program so as to indicate to the user that the dynamic color variation program has been selected.

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39. The method of claim 38, wherein the act b9) comprises an act of:

SEARCHED
INDEXED
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select

temporarily increasing the color variation speed of the dynamic color variation program so as to indicate to the user that the dynamic color variation program has been selected.

5 40. The method of claim 34, wherein the at least one interruption includes a plurality of interruptions, and wherein the act b5) comprises an act of:
 b10) selecting and executing different illumination programs of the plurality of illumination programs based on successive interruptions of the plurality of interruptions.

10 41. The method of claim 40, wherein each illumination program of the plurality of illumination programs is associated with one identifier in a sequence of identifiers, and wherein the act b10) comprises an act of:
 sequentially selecting and executing the different illumination programs based on the sequence of identifiers and the successive interruptions.

15 42. The method of claim 40, wherein each interruption of the plurality of interruptions has an interruption duration, and wherein the act b10) comprises an act of:
 selecting and executing a different illumination program of the plurality of illumination programs if the interruption duration of at least one interruption is less than
20 or equal to a predetermined duration.

25 43. The method of claim 42, wherein the act b10) further comprises an act of:
 not selecting and executing a different illumination program of the plurality of illumination programs if the interruption duration of the at least one interruption is greater than the predetermined duration.

30 44. An apparatus, comprising:
 at least one light source adapted to be supported by one of a pool and a spa so as to illuminate a liquid contained in the one of the pool and the spa, the at least one light source being further adapted to generate variable color radiation without requiring the use of a color filter, the at least one light source being further adapted such that at least a

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color of the variable color radiation is controllable based on at least one interruption of power supplied to the at least one light source.

45. An apparatus, comprising:

5 one of a pool and a spa to contain a liquid; and
at least one light source supported by the one of the pool and the spa to illuminate the liquid, the at least one light source being adapted to generate variable color radiation without requiring the use of a color filter, the at least one light source being further adapted such that at least a color of the variable color radiation is controllable based on at
10 least one interruption of power supplied to the at least one light source.

46. A method of illuminating a liquid contained in one of a pool and a spa with variable color radiation, comprising an act of:

mounting a lighting fixture, adapted to generate the variable color radiation, on a
15 portion of an inner surface of the one of the pool and the spa, the inner surface being at least partially in contact with the liquid.

47. In an illumination system in which a plurality of illumination programs may be executed to control a generation of variable color radiation, a method comprising an
20 act of:

a) indicating to a user, via at least the variable color radiation, that a particular illumination program of the plurality of illumination programs has been selected.

48. The method of claim 47, wherein the act a) comprises an act of:

25 b) temporarily modifying at least one variable parameter of the particular illumination program so as to indicate to the user that the particular illumination program has been selected.

49. The method of claim 48, wherein the particular illumination program includes a

30 dynamic color variation program, wherein the at least one variable parameter includes a color variation speed of the dynamic color variation program, and wherein the act b)
comprises an act of:

SEARCHED
INDEXED
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c) temporarily modifying the color variation speed of the dynamic color variation program so as to indicate to the user that the dynamic color variation program has been selected.

5 50. The method of claim 49, wherein the act c) comprises an act of:
temporarily increasing the color variation speed of the dynamic color variation program so as to indicate to the user that the dynamic color variation program has been selected.

10 51. In an illumination system in which a plurality of illumination programs may be executed to control a generation of variable color radiation, an apparatus, comprising:
at least one controller to indicate to a user, via at least the variable color radiation, that a particular illumination program of the plurality of illumination programs has been selected.

15 52. The apparatus of claim 51, wherein the at least one controller is further adapted to temporarily modify at least one variable parameter of the particular illumination program so as to indicate to the user that the particular illumination program has been selected.

20 53. The apparatus of claim 52, wherein the particular illumination program includes a dynamic color variation program, wherein the at least one variable parameter includes a color variation speed of the dynamic color variation program, and wherein the at least one controller is further adapted to temporarily modify the color variation speed of the dynamic color variation program so as to indicate to the user that the dynamic color variation program has been selected.

25 54. The apparatus of claim 53, wherein the at least one controller is further adapted to temporarily increase the color variation speed of the dynamic color variation program so as to indicate to the user that the dynamic color variation program has been selected.

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